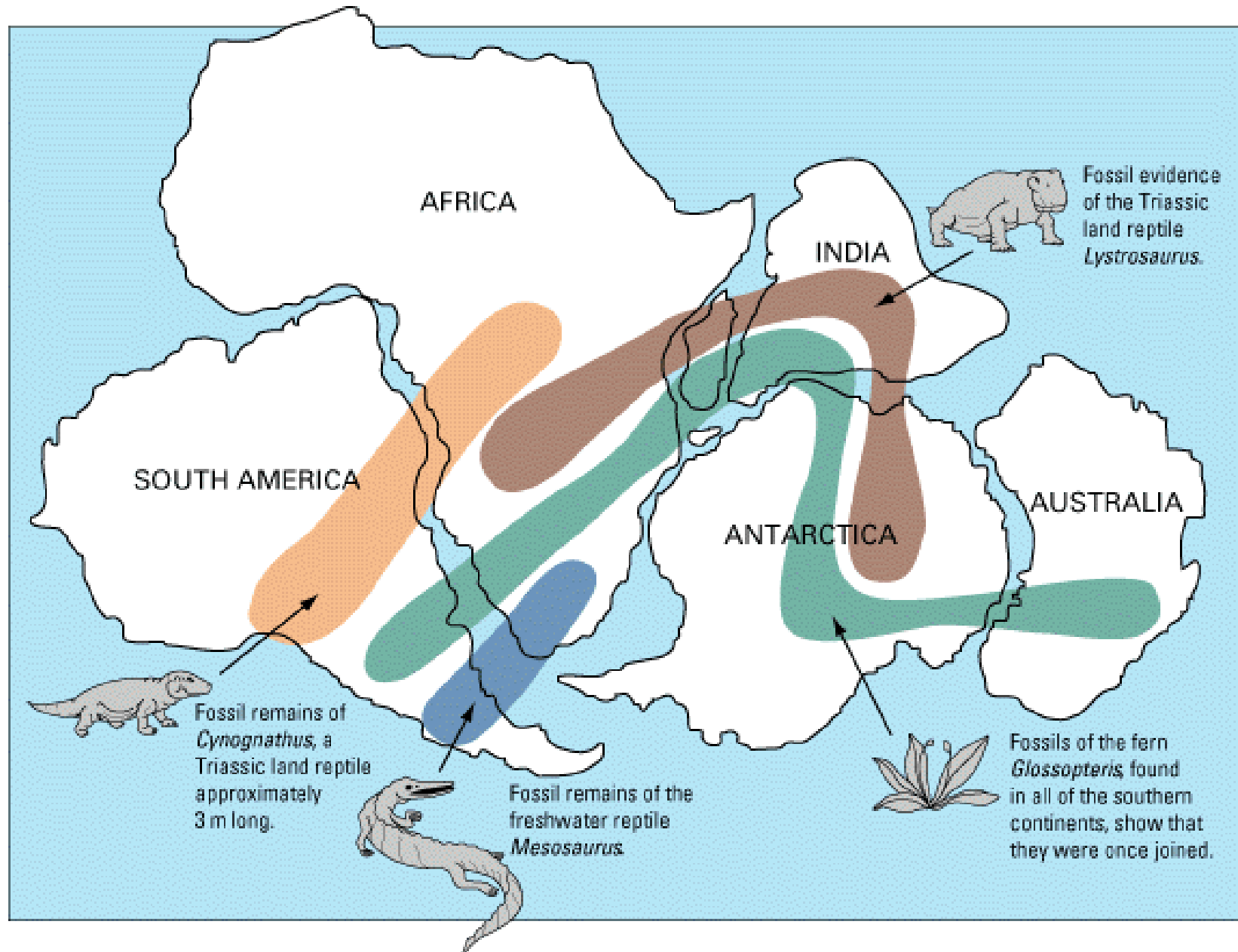


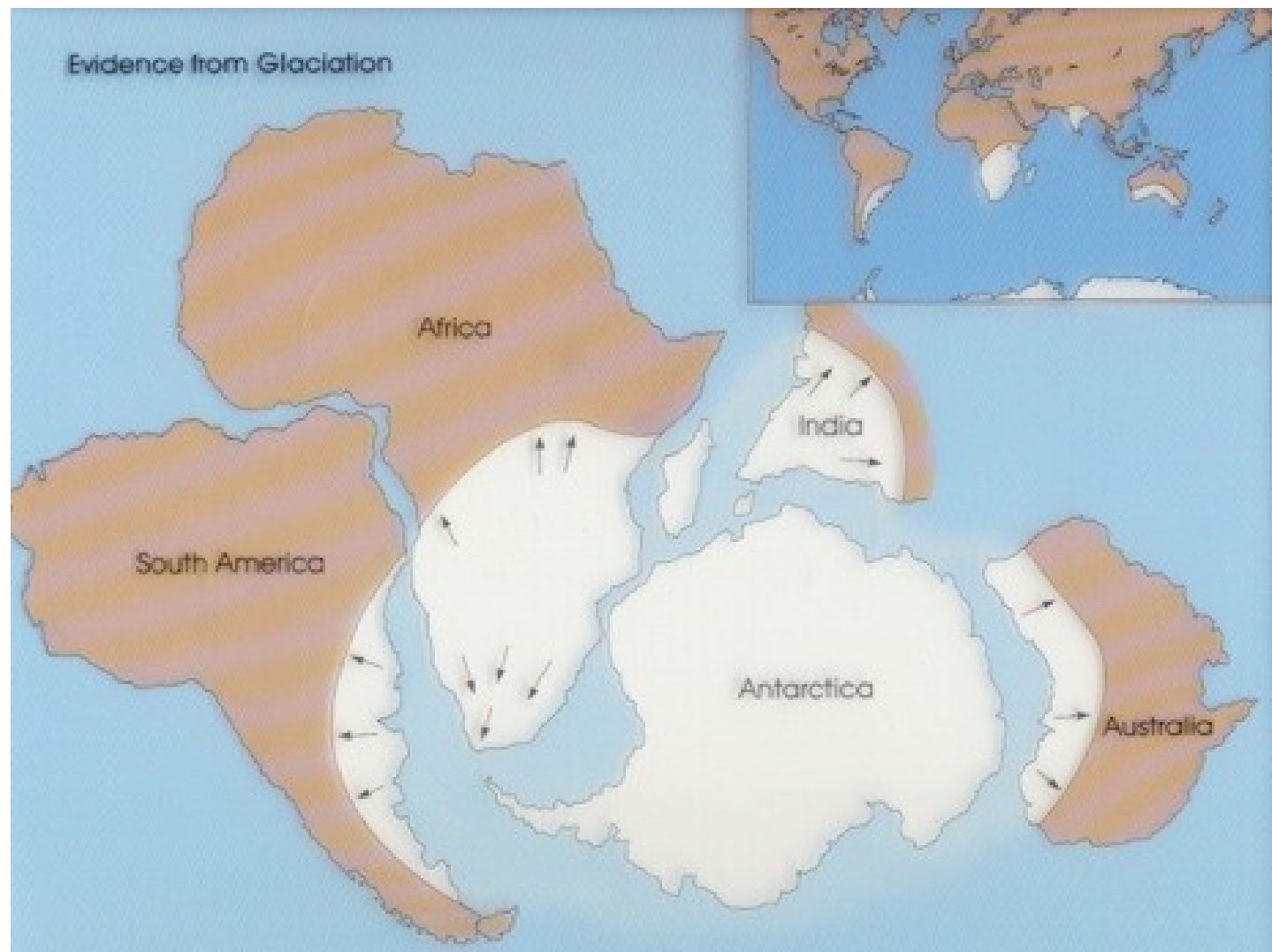
Continental Drift versus Tectonic Plates

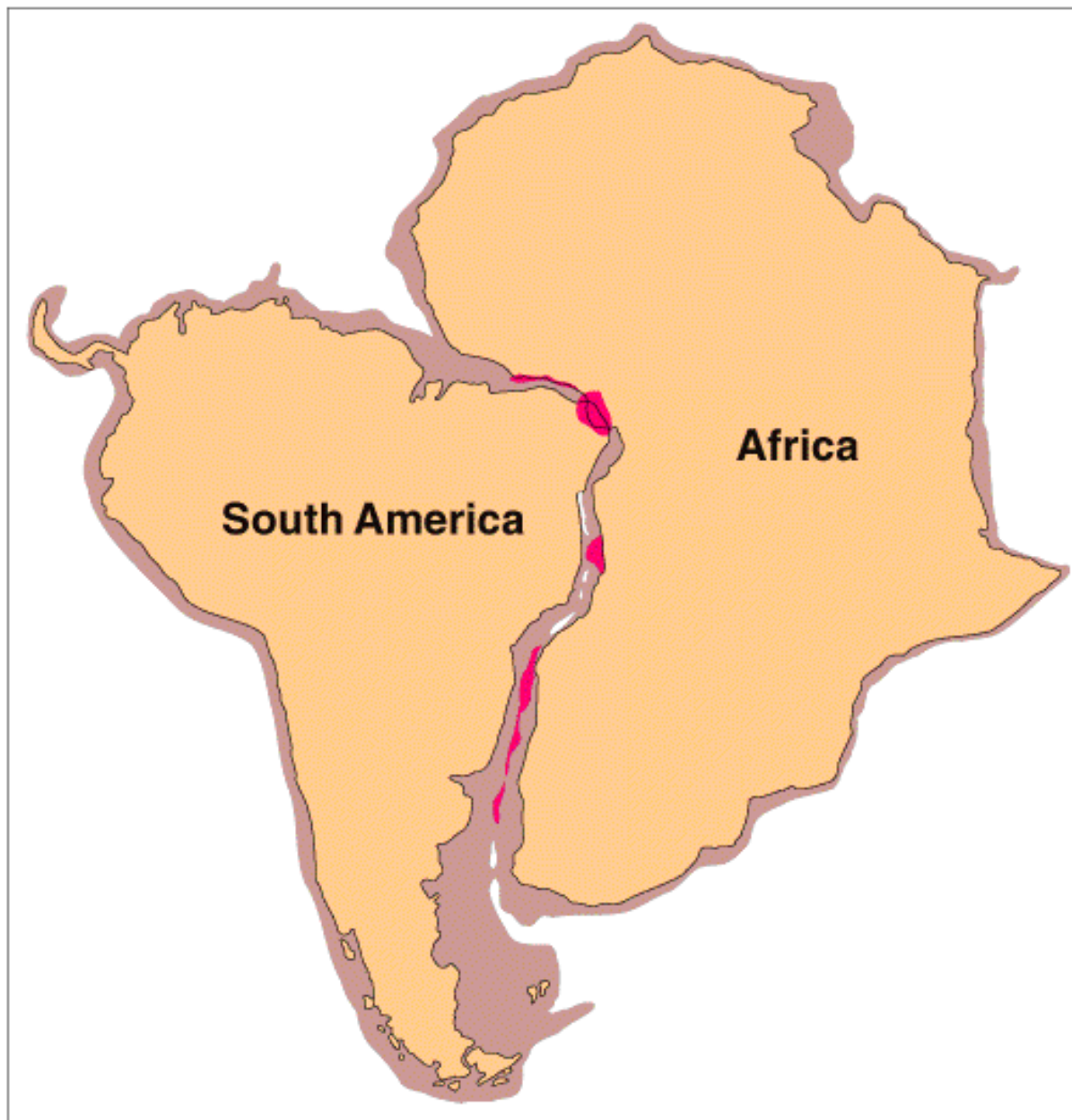
Continental Drift : Alfred Wegener's idea

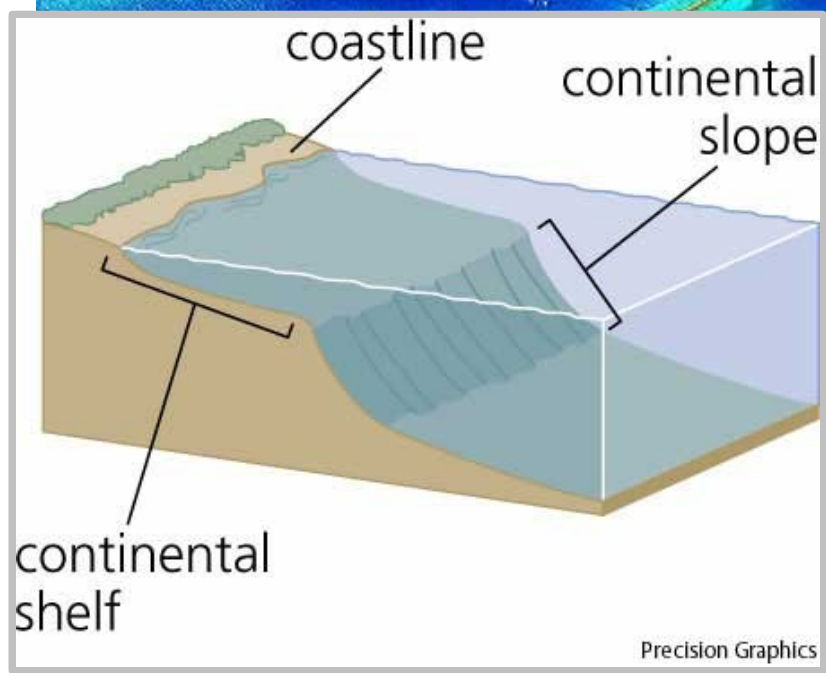
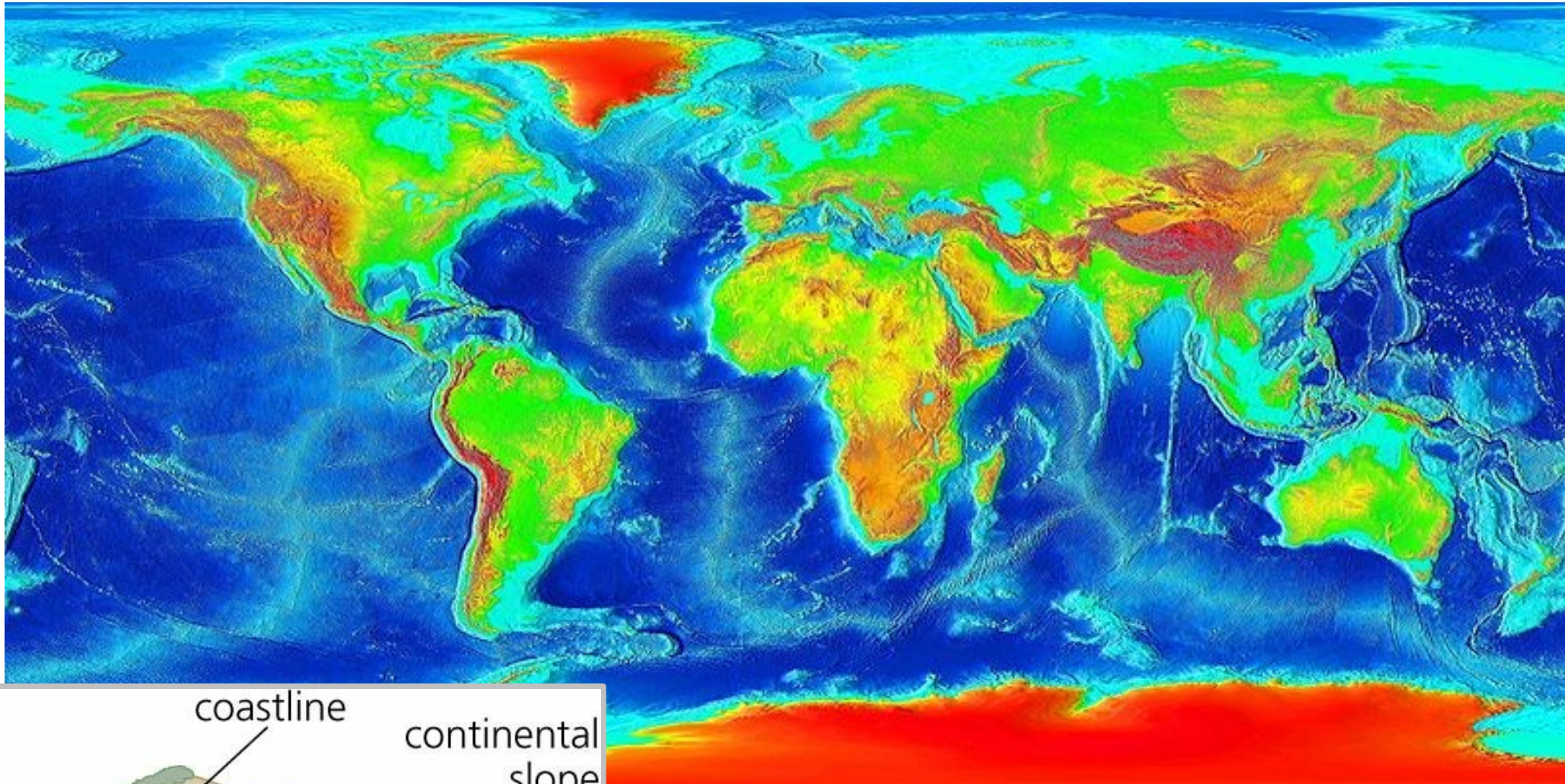




Evidence from Glaciation



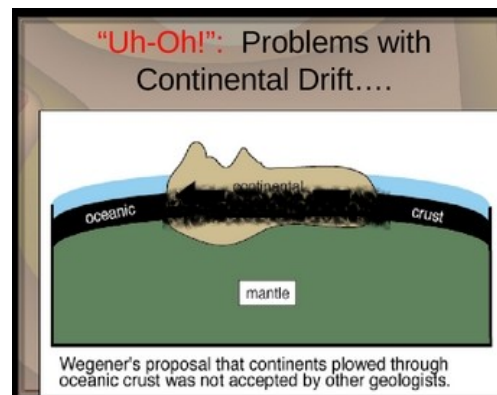
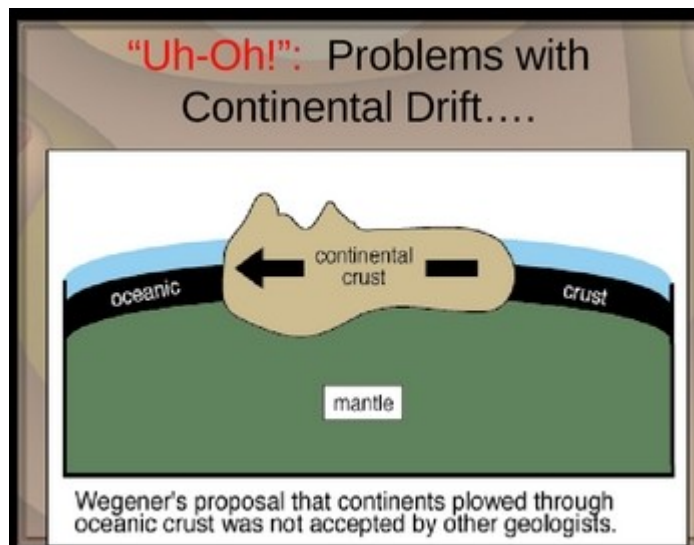




Wegener eventually proposed a mechanism for continental drift

- **the rotation of the earth created a centrifugal force towards the equator.** He believed that Pangaea originated near the south pole and that the centrifugal force of the planet caused the continent to break apart and the resultant continents to drift towards the equator. He called this the "pole-fleeing force" **-FUERZA POLOFUGA-**. This idea was quickly rejected by the scientific community primarily because the actual forces generated by the rotation of the earth were **calculated to be insufficient to move continents**.
- Wegener also tried to explain the **WESTWARD DRIFT of the Americas by invoking the gravitational forces of the sun and the moon.** This idea was also quickly **rejected**.

The drifting continents would result in folded fronts as seen in the image



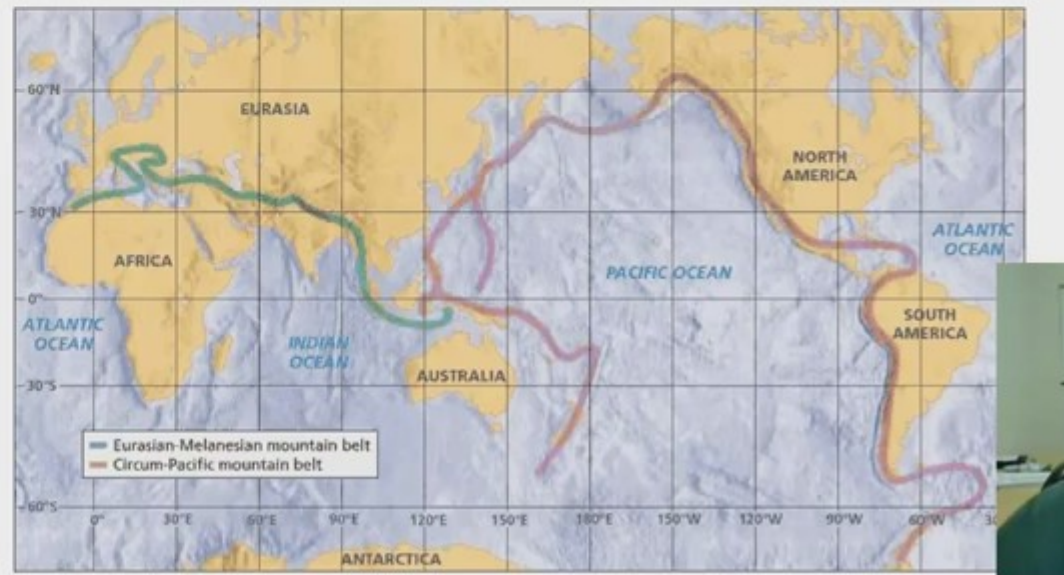
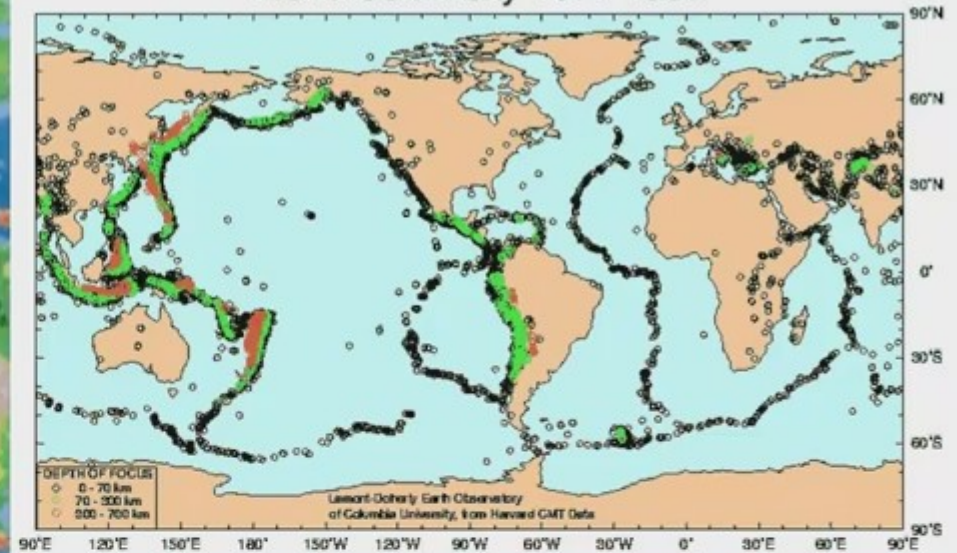
Wegener's inability to provide an adequate explanation of the forces responsible for continental drift and the prevailing belief that the earth was solid and immovable resulted in the scientific dismissal of his theories.

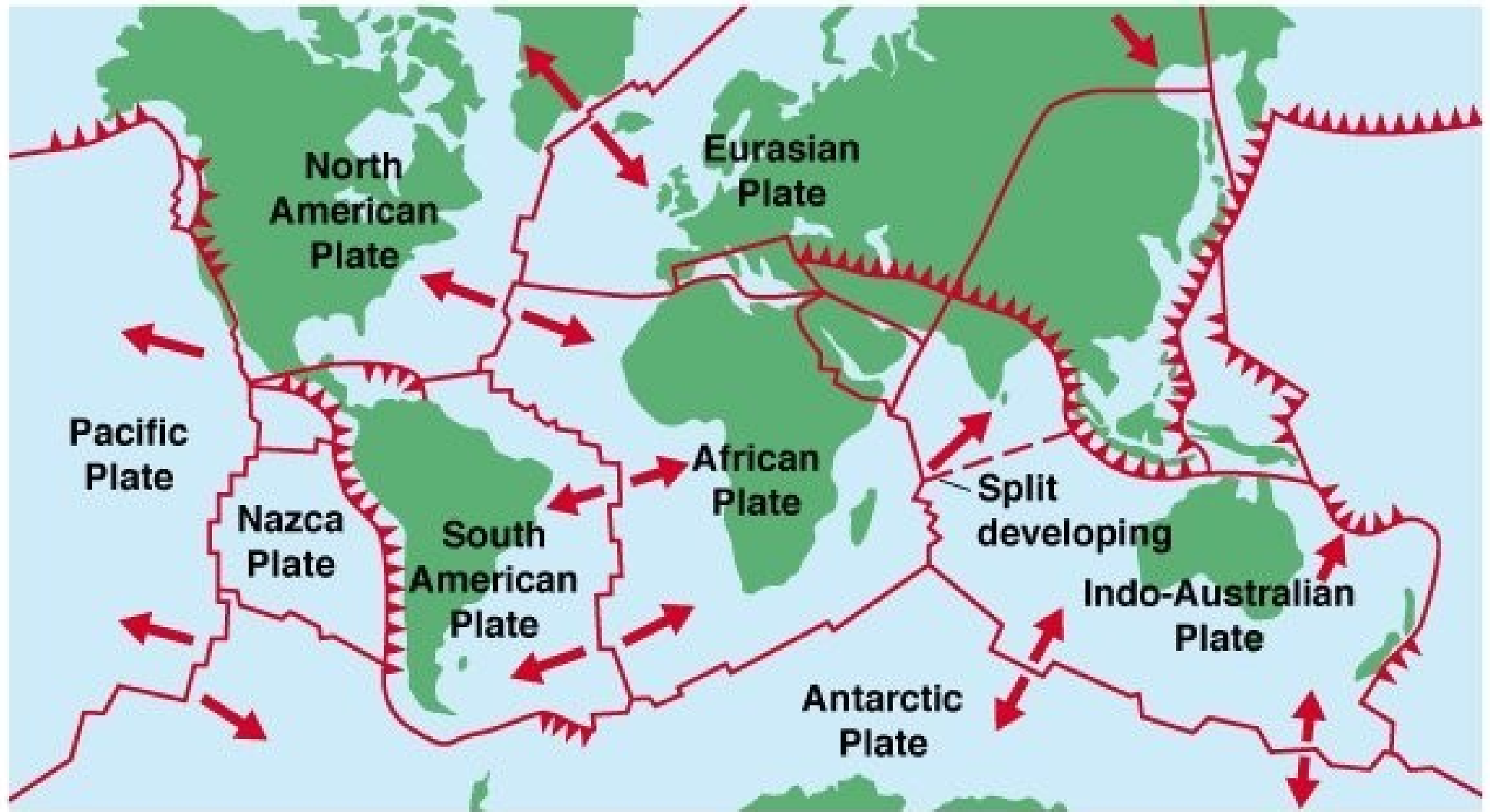
the left image is not an accurate representation of Wegener's idea and I've changed it slightly



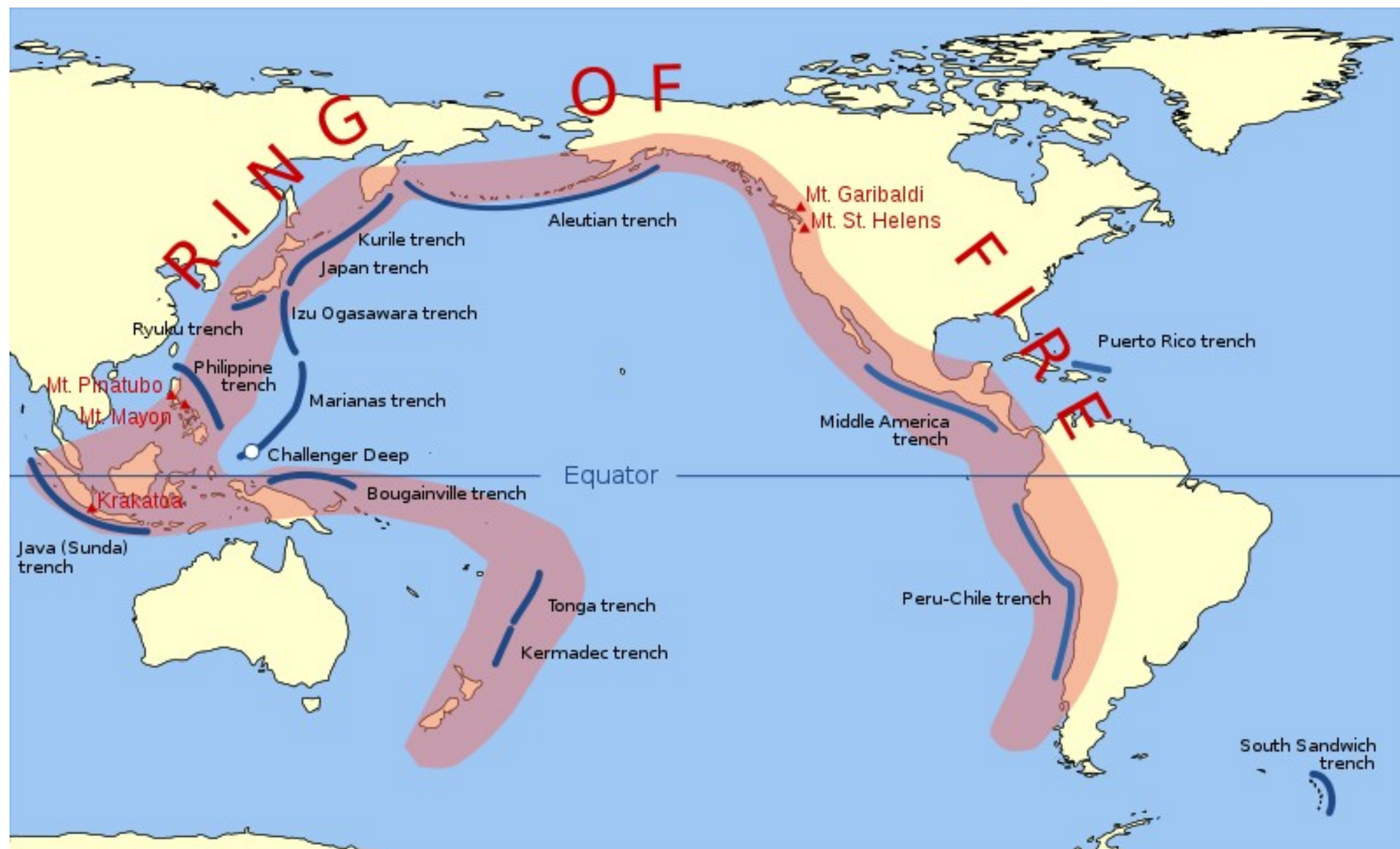


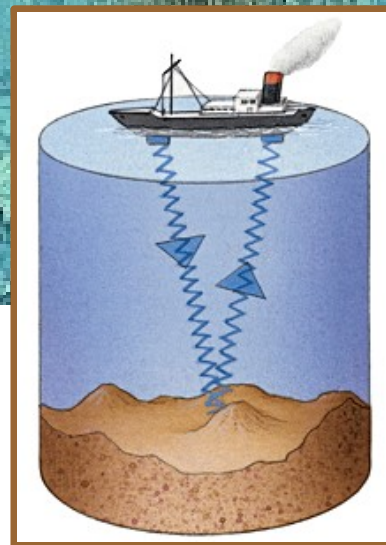
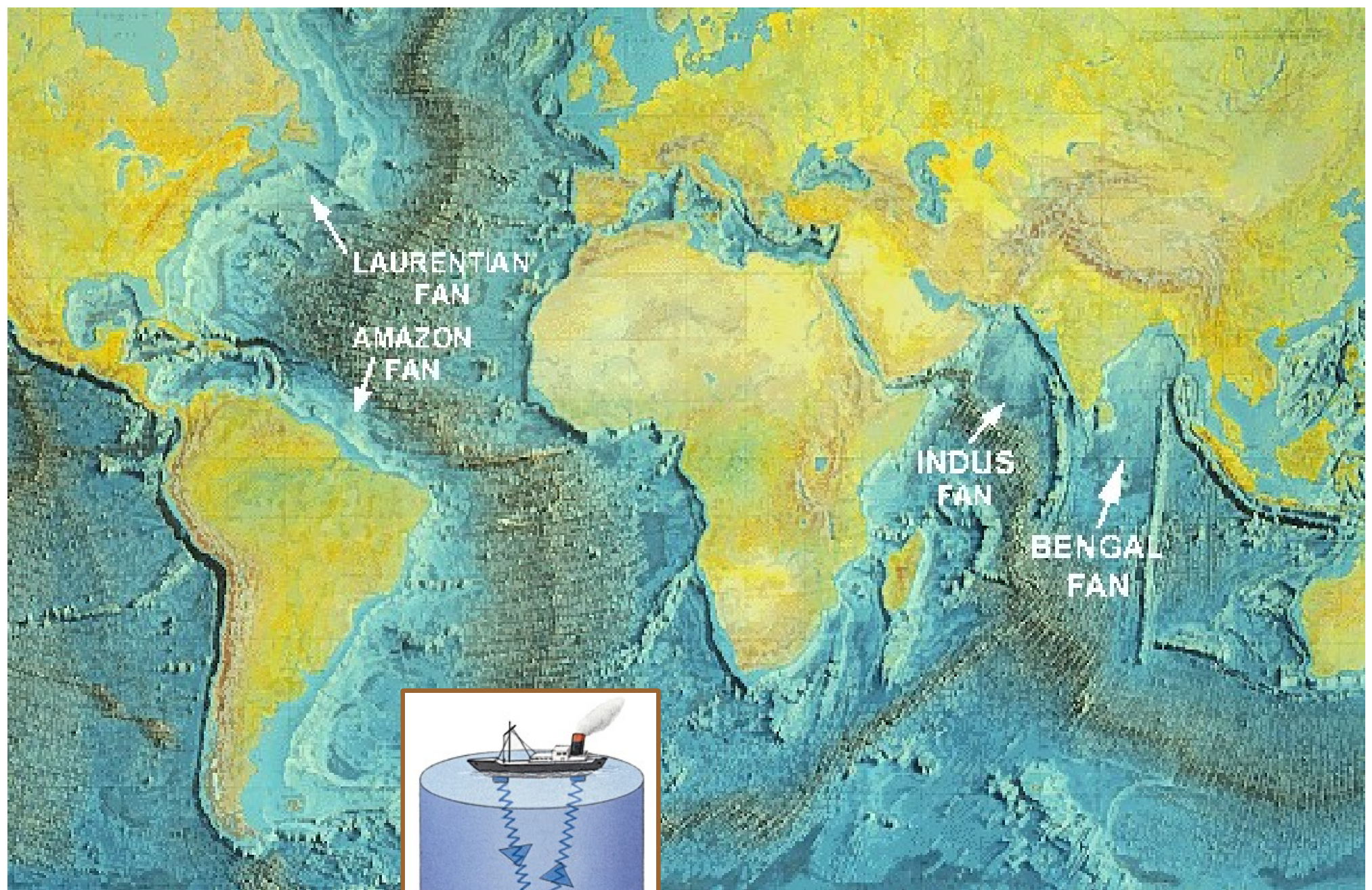
World Seismicity 1977-1992

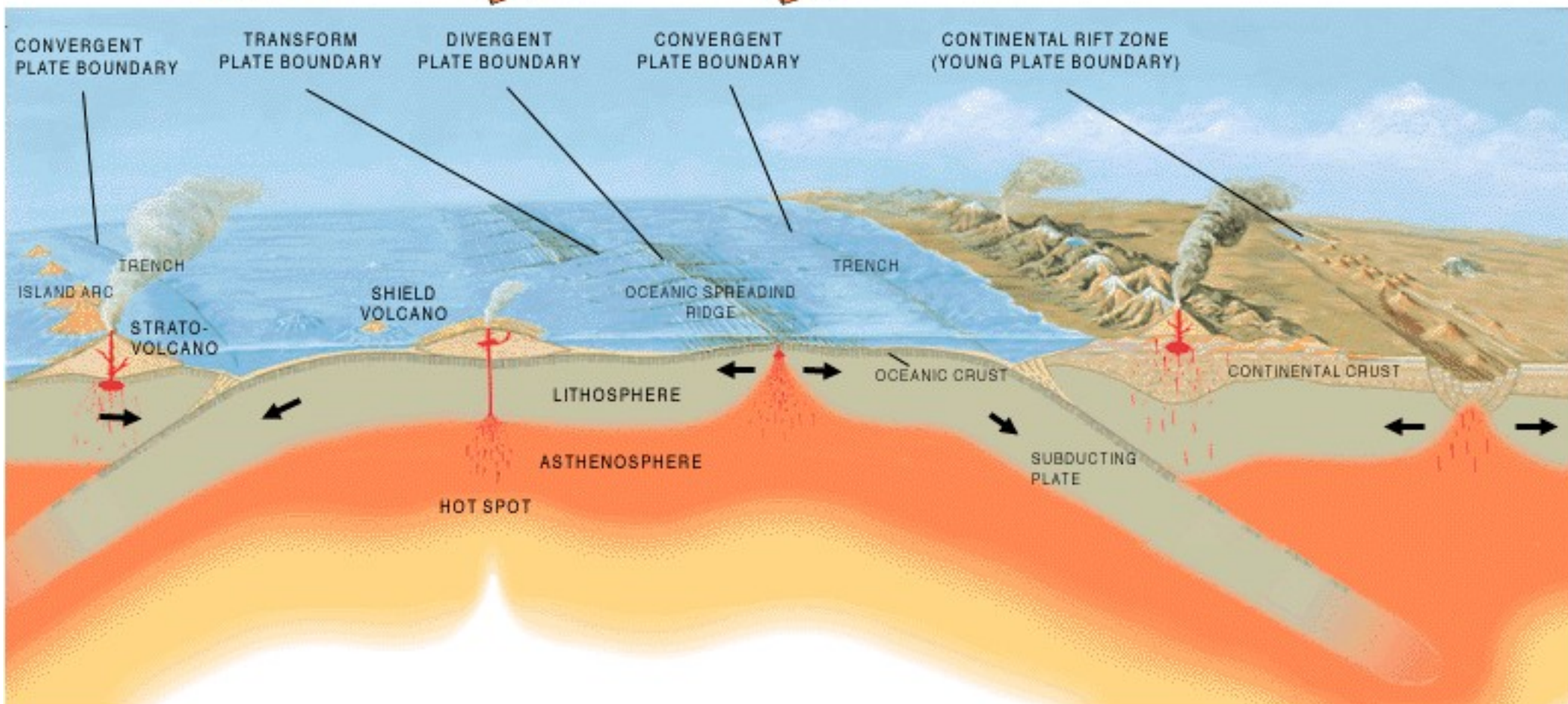
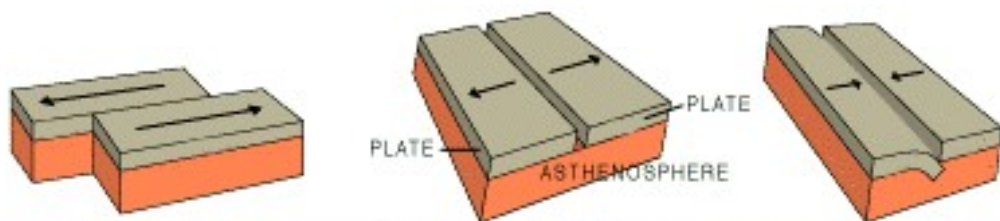


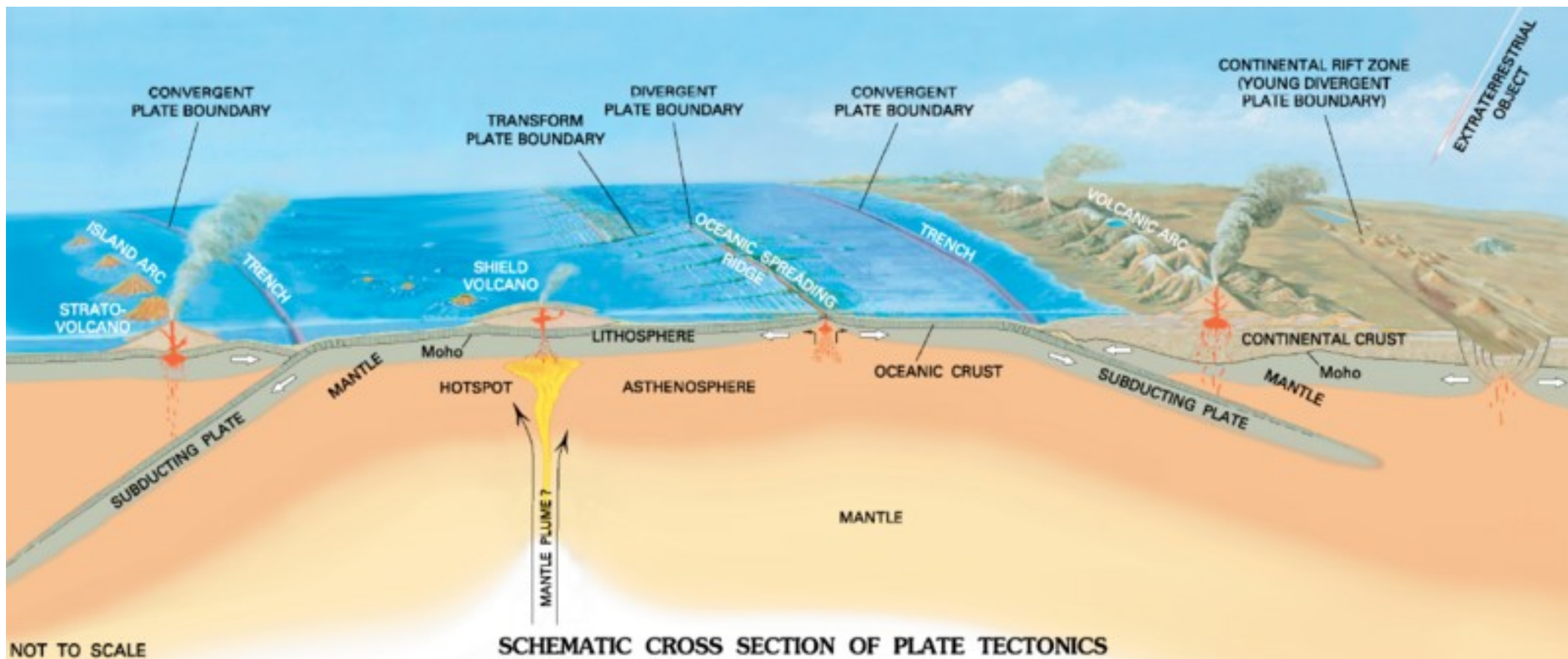


(a) ©1999 Addison Wesley Longman, Inc.

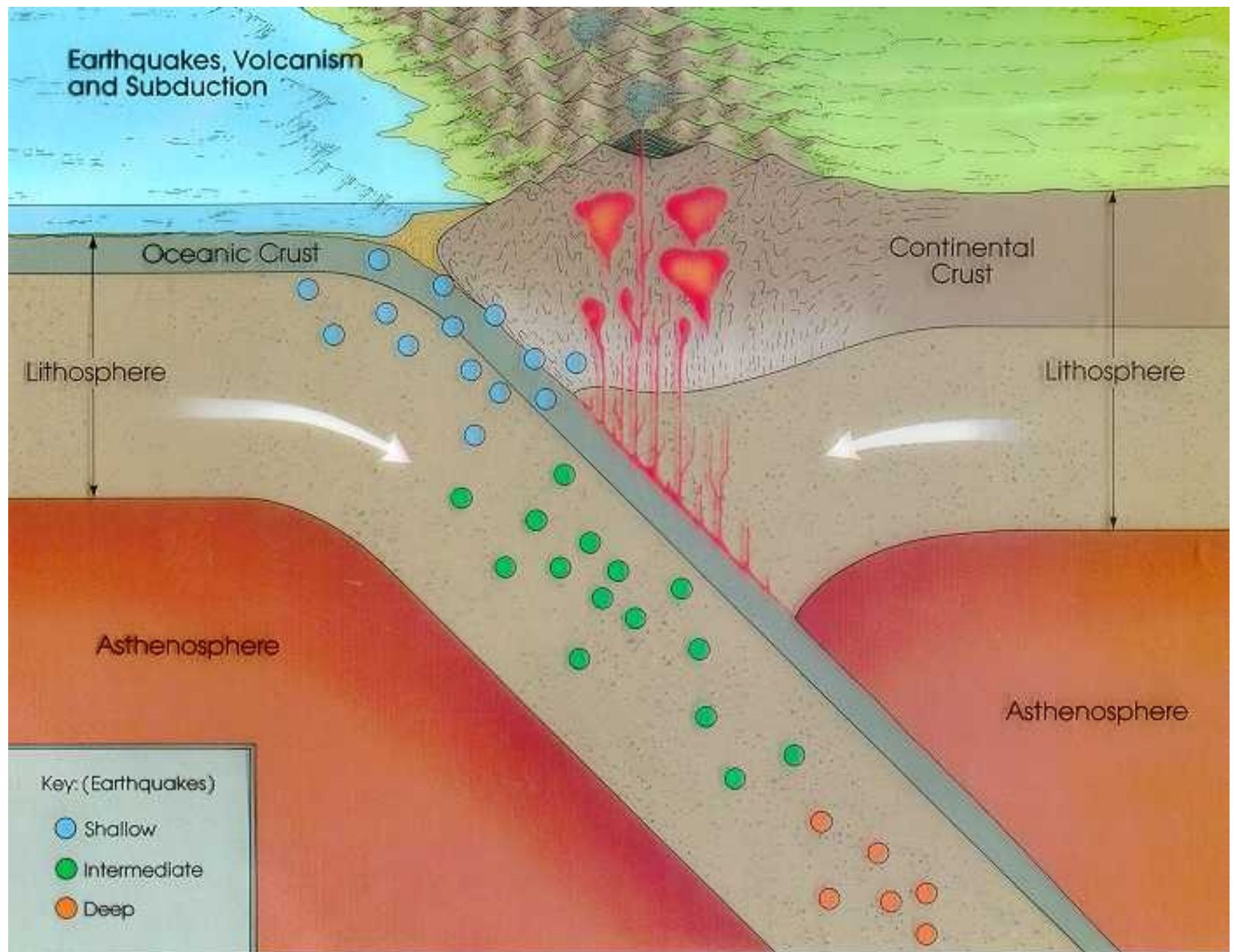


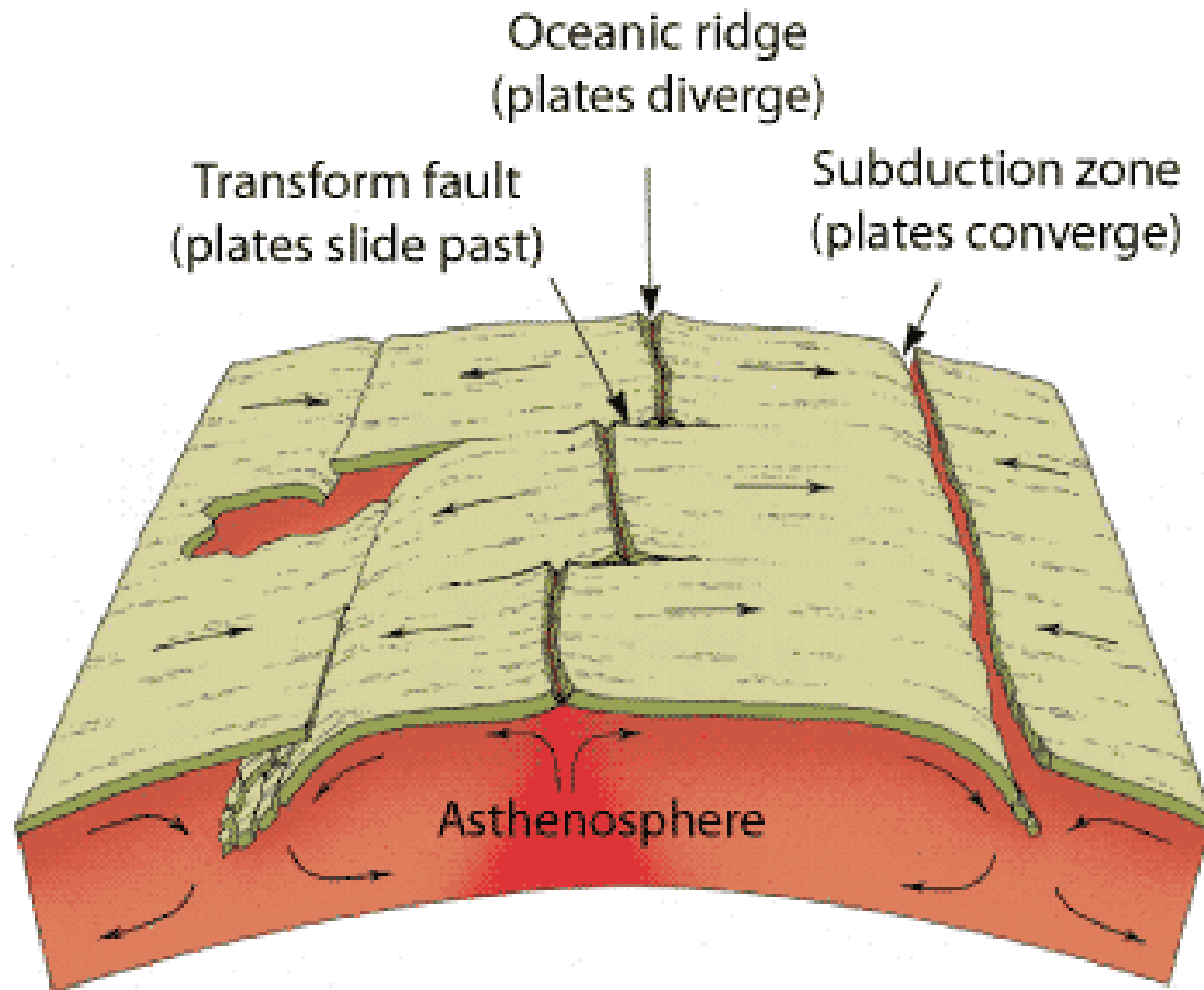


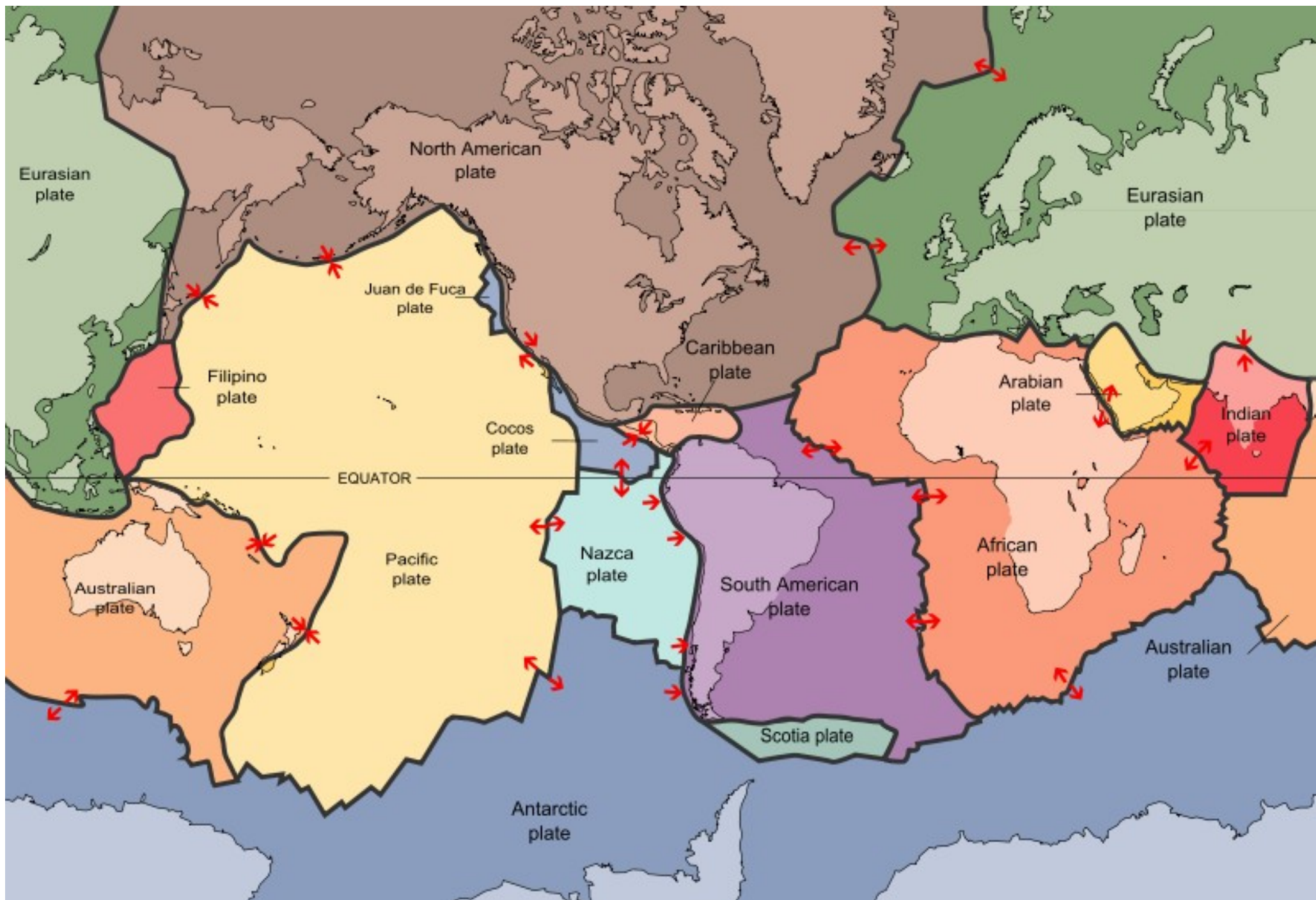


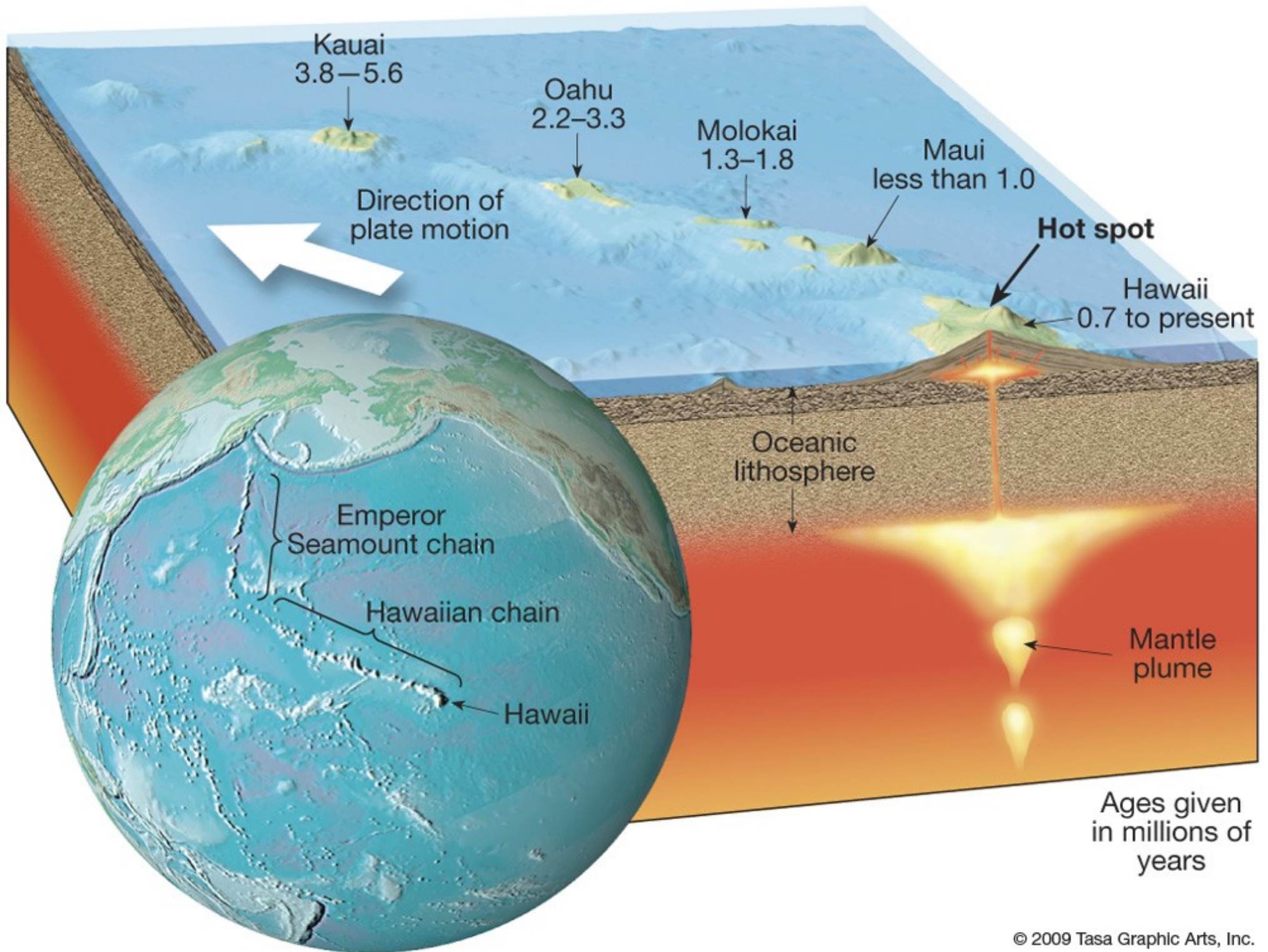


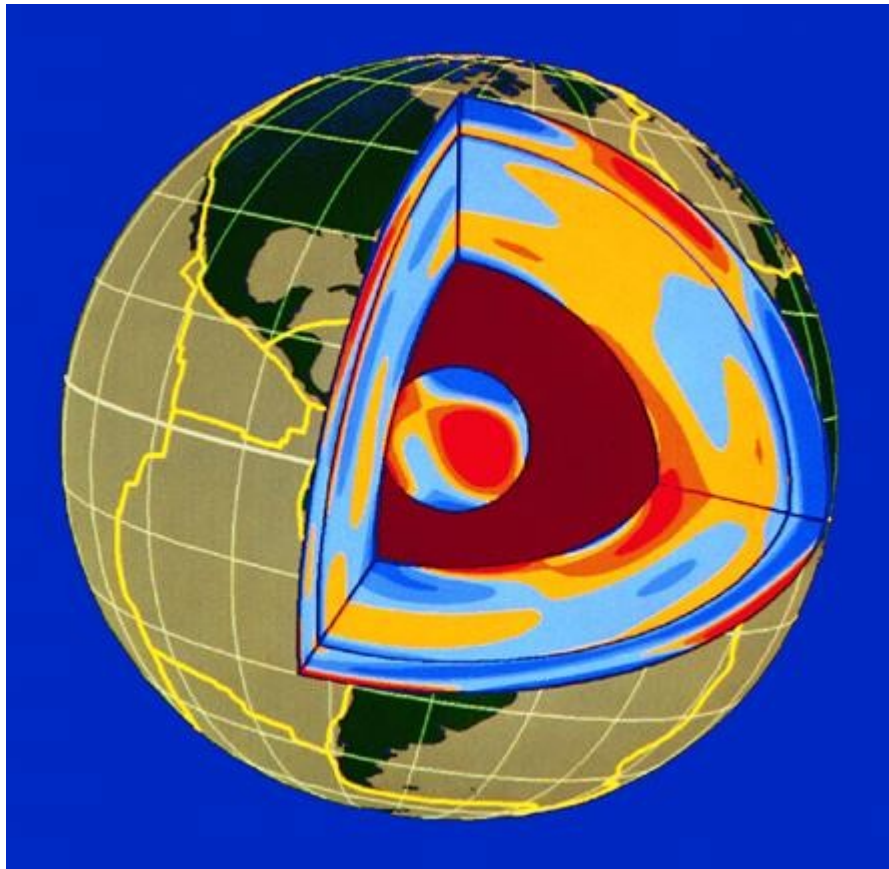
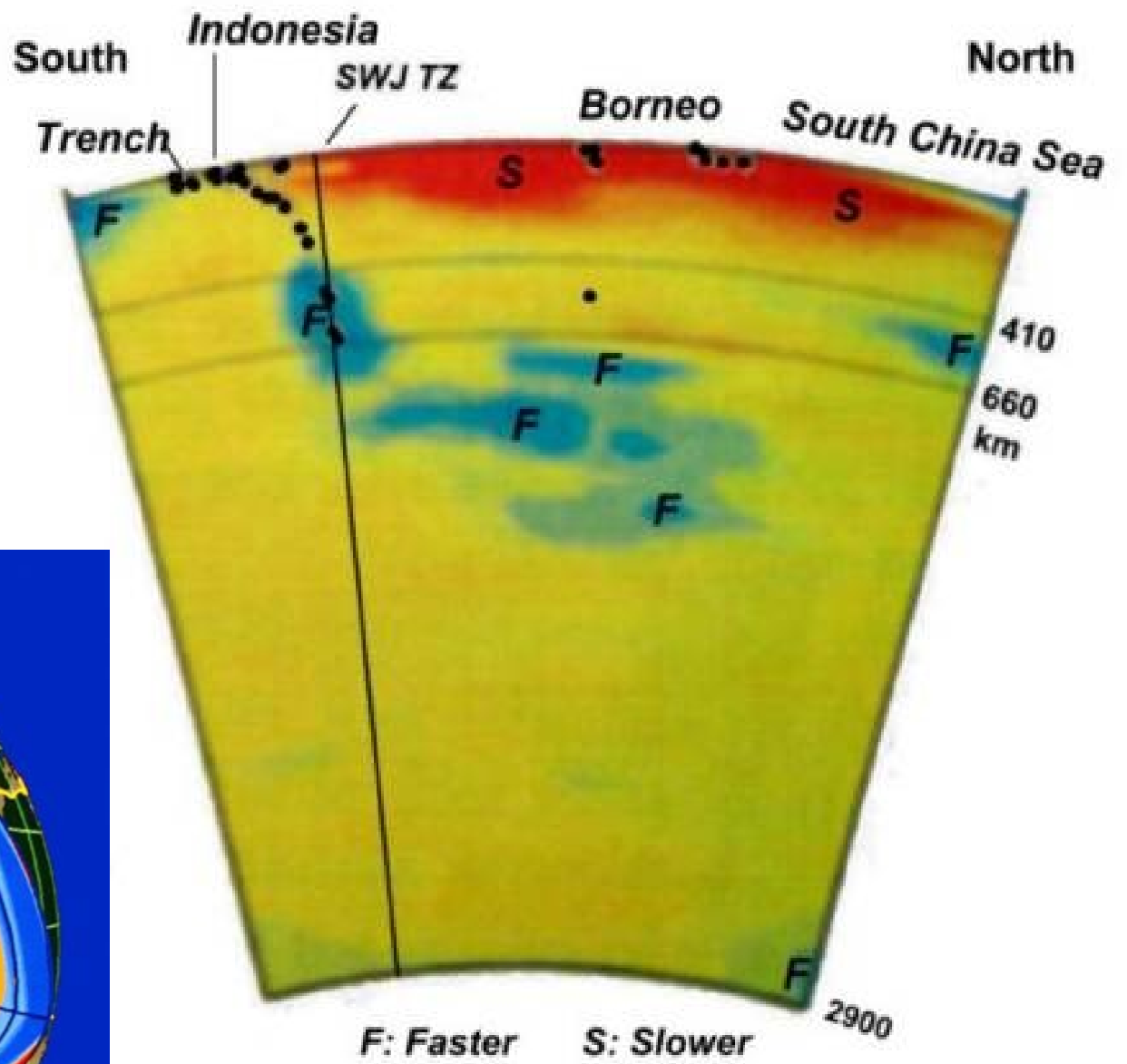
Earthquakes, Volcanism and Subduction



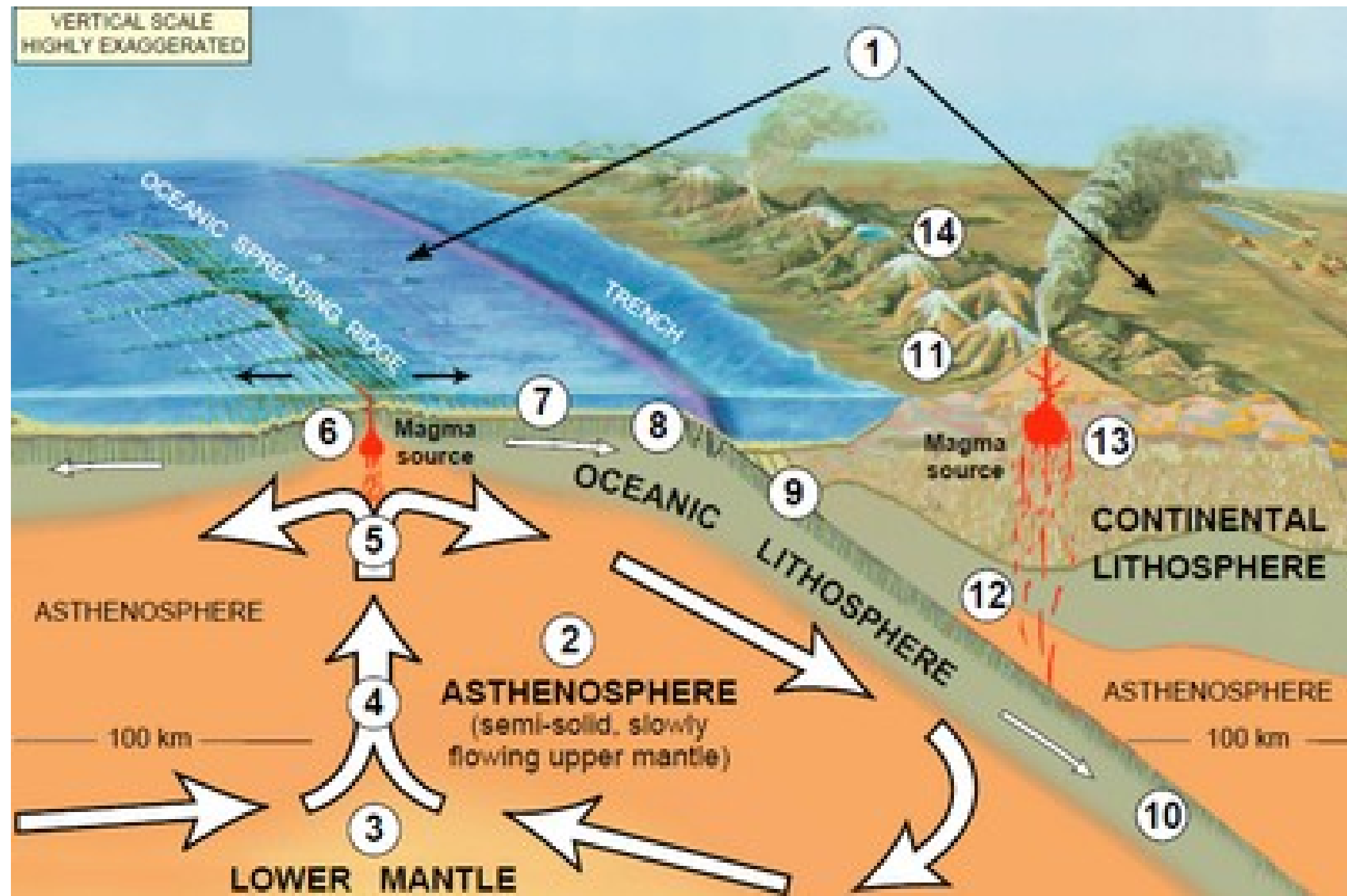


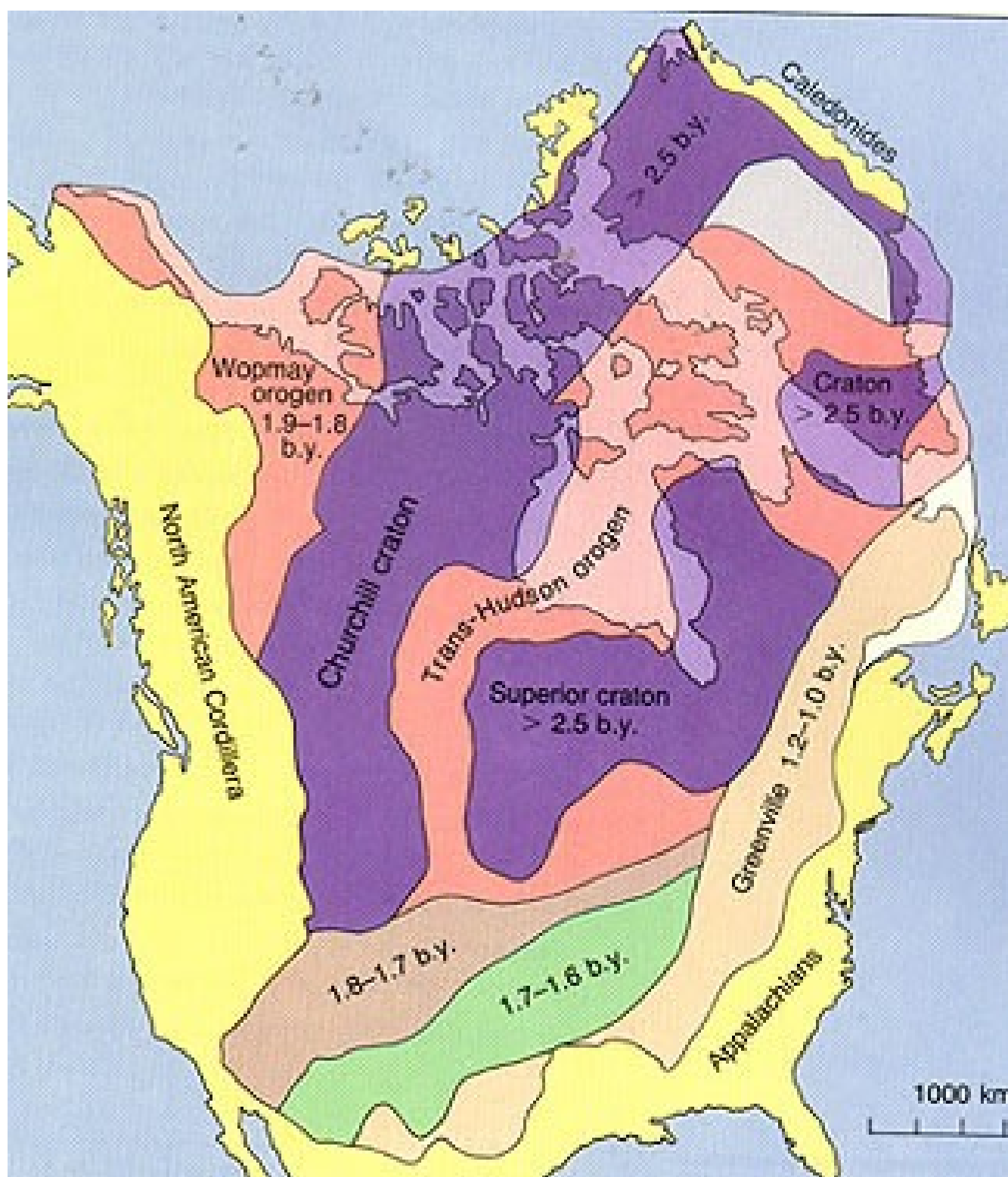




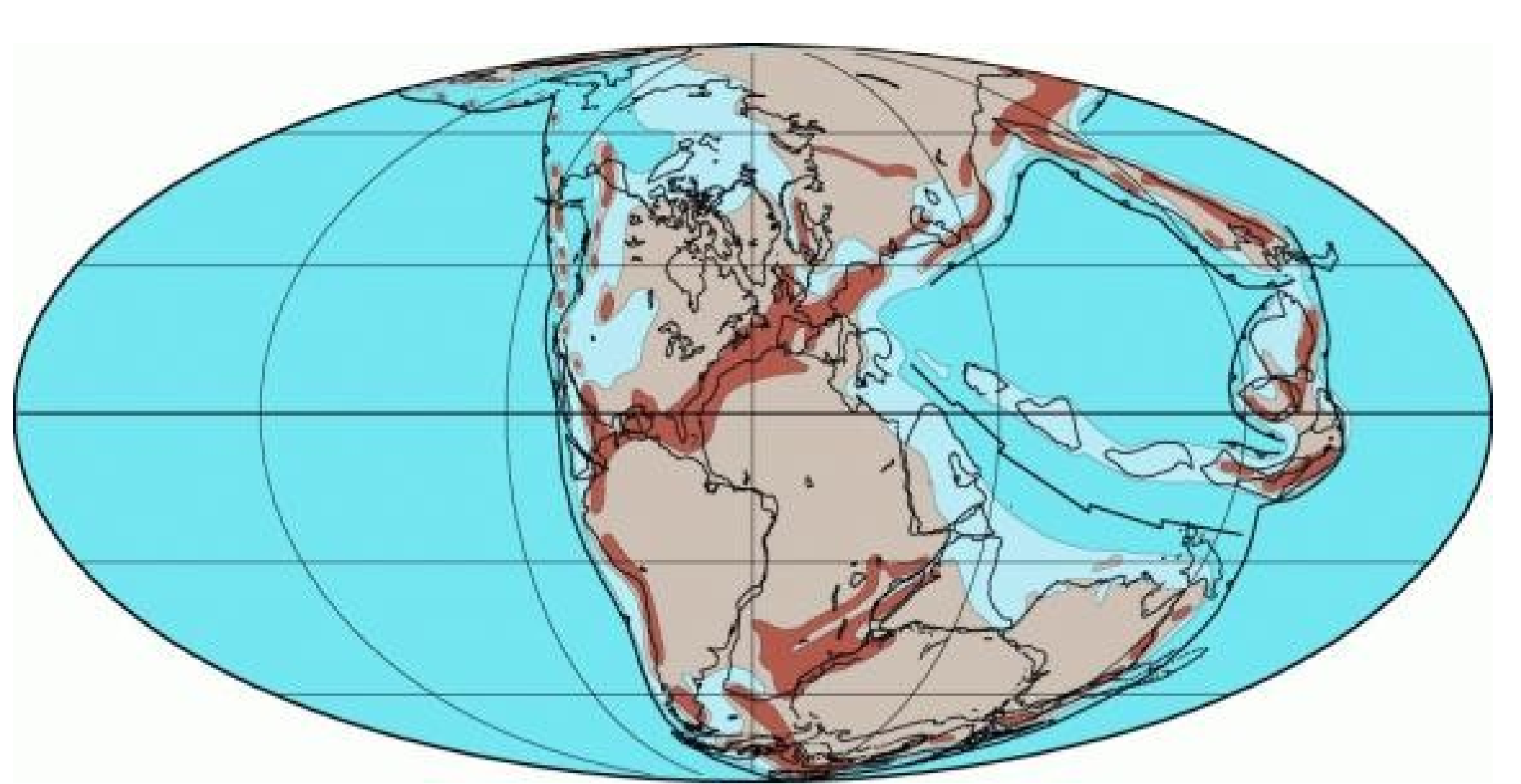


VERTICAL SCALE
HIGHLY EXAGGERATED











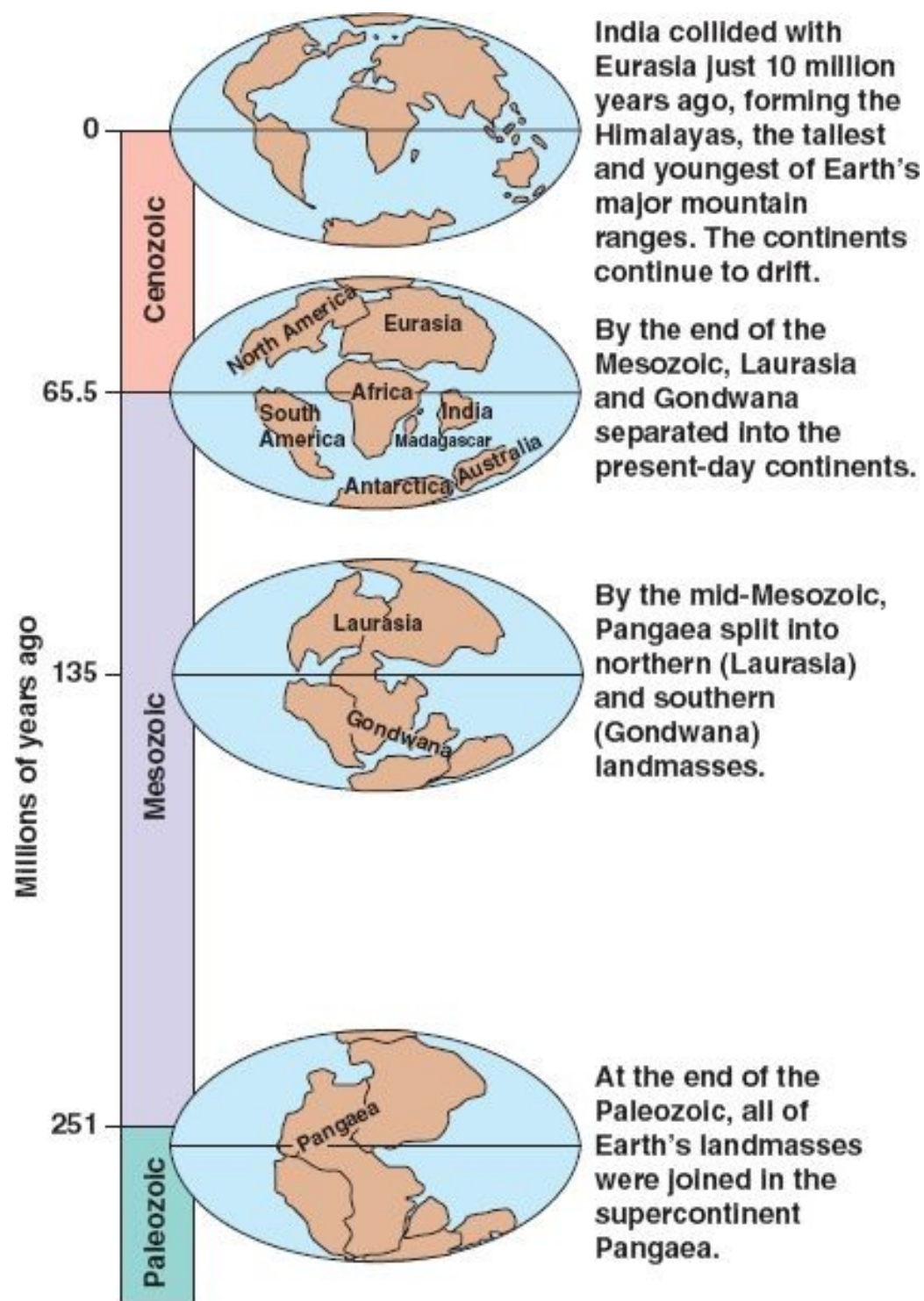
TRIASSIC

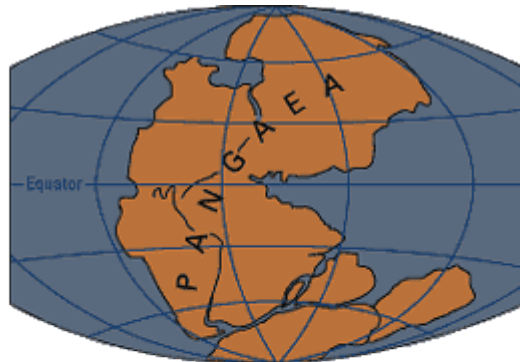


JURASSIC



CRETACEOUS





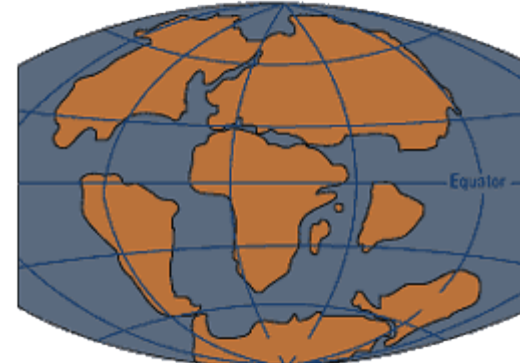
Permian Period
225 million years ago



Triassic Period
200 million years ago



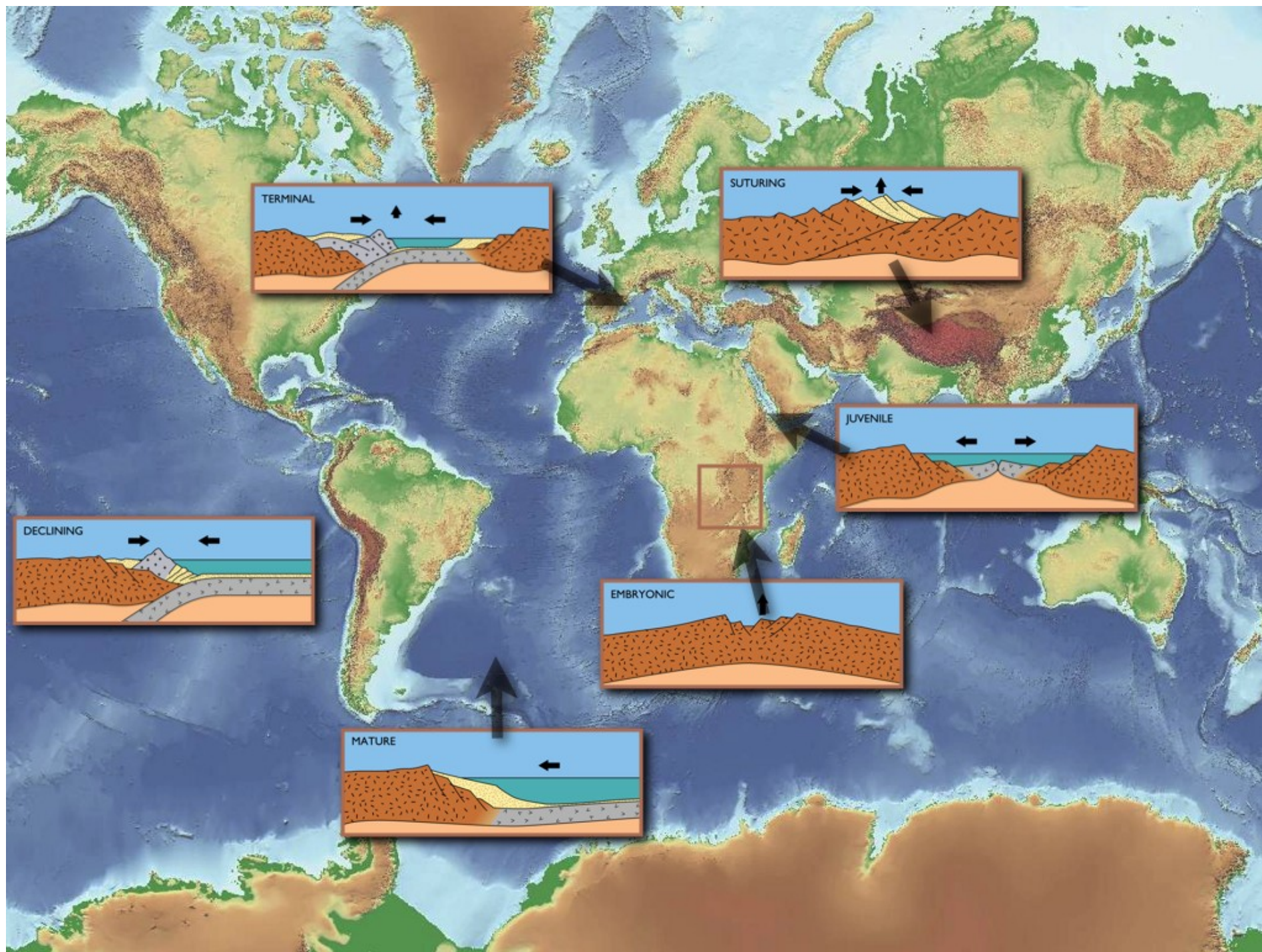
Jurassic Period
135 million years ago

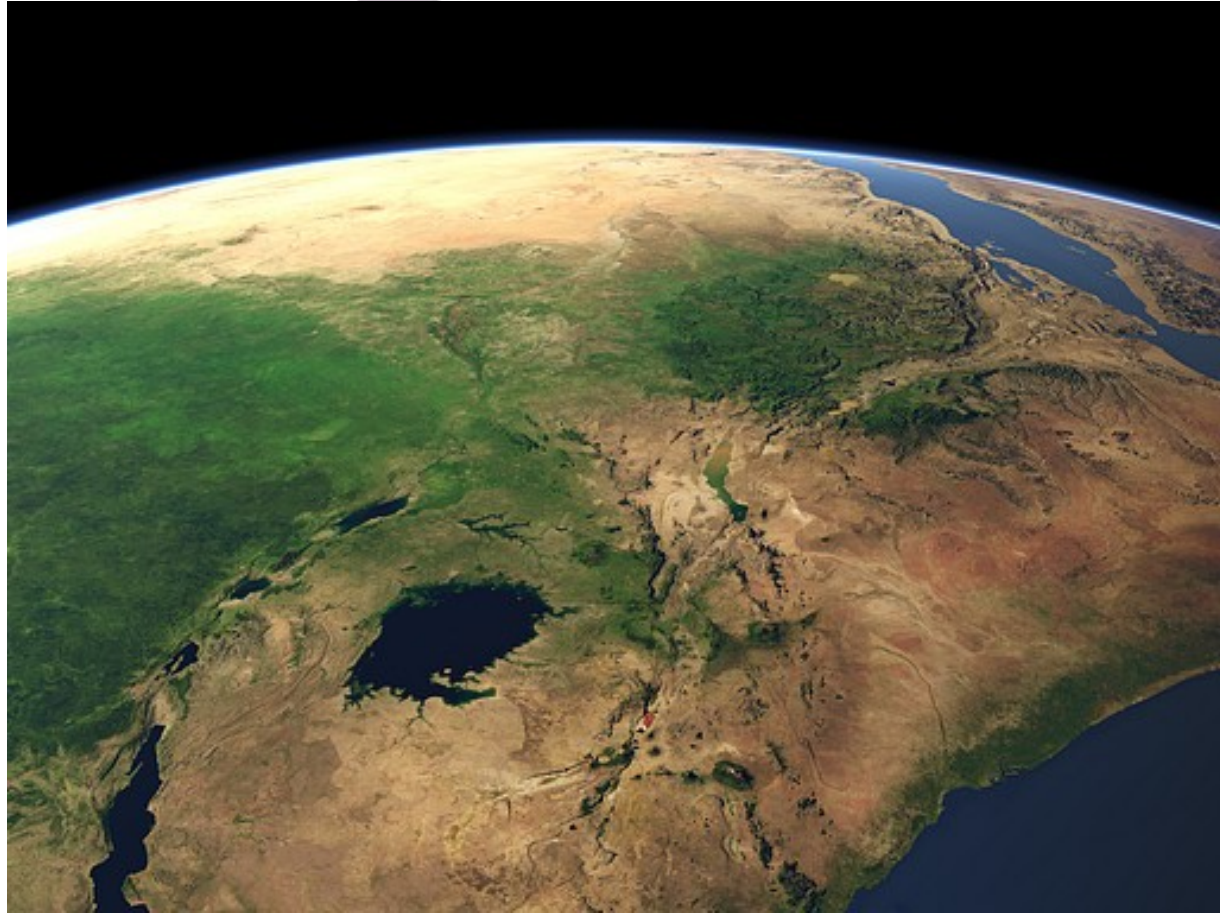


Cretaceous Period
65 million years ago

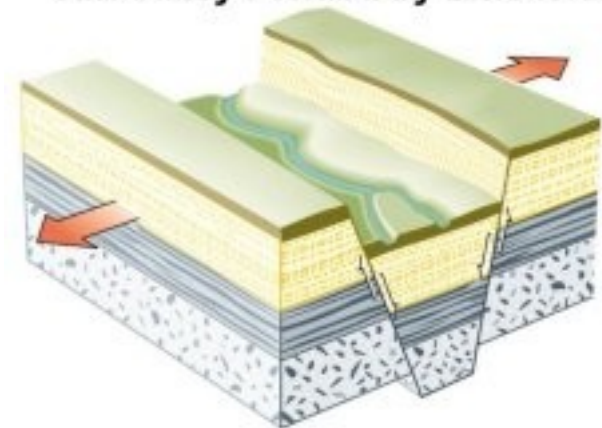


Present Day

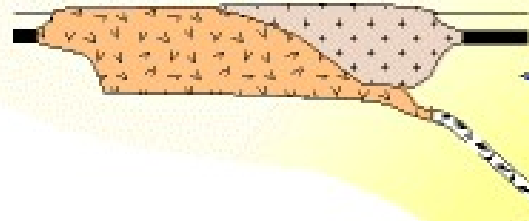




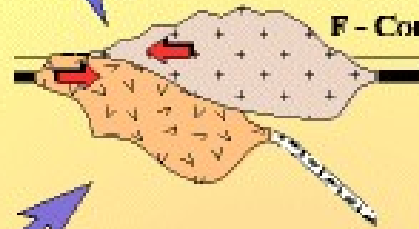
Rift Valley Formed by Extension



G - PENEPLAINED MOUNTAIN



F - COLLISION OROGENY



The Wilson Cycle

A - STABLE CRATON



E - CLOSING REMNANT OCEAN BASIN



B - EARLY RIFTING



D - SUBDUCTION ZONE



C - FULL OCEAN BASIN



Magnetic Reversals

Age 0 1 2 3 4 (millions of years)

Polarity Epochs
 Brunhes Normal
 Matuyama Reversed
 Gauss Normal
 Gilbert Reversed

Events
 Jaramillo
 Olduvai
 Mammoth

Polarity Data

Normal
 Reversed

Normal Polarity
 Reversed Polarity

